WHAT IS CLAIMED IS:

1. A method for accommodating different drum loads in an imaging device, the method comprising steps of:

a) applying a drive stimulus to the drum load;

b) monitoring the response of the drum load to the stimulus;

c) determining a new value for at least one control parameter for driving the drum load; and

d) updating the control parameter in accordance with the new value.

2. A method according to claim 1, wherein the drive stimulus is a pre-determined drive stimulus.

3. A method according to claim 2, wherein the pre-determined drive stimulus is a constant torque.

4. A method according to claim 2, wherein the pre-determined drive stimulus is a varying torque.

5. A method according to claim 1, wherein steps (b) to (d) are performed under closed loop feedback control.

6. A method according to claim 1, wherein steps (a) to (d) are performed under open loop feedback control.

7. A method according to claim 6, wherein steps (b) to (d) are iteratively repeated.

8. A method according to claim 7, wherein after updating the control parameter in accordance with the new value, the iterative repetition of steps (b) to (d) is discontinued.

9. A method according to claim 1, wherein the monitoring the response of the drum load to the stimulus is performed by optical means.

10. A method according to claim 1, wherein the parameter is effective drum inertia.

11. A method according to claim 10, wherein the drum inertia is calculated according to the formula:

$$J = \frac{T}{\alpha};$$

where T is the value of a constant torque stimulus applied to the drum and α is the rotational acceleration of the drum load, the rotational acceleration calculated from the monitored response of the drum load to the stimulus.

12. A system for driving a drum load, comprising:

a drum drive for driving the load;

an encoder for sensing the resulting rotation of the drum; and

a controller operably connected to the drum drive to provide control signals thereto, the control signals derived by the controller in response to rotational information received from the encoder, the controller having a drive parameter estimator for determining suitable drive conditions for the load.

13. A system for driving a drum load according to claim 12, wherein the drive parameter estimator comprises instructions stored in computer readable memory.

14. A system for driving a drum load according to claim 12, wherein the drive parameter estimator comprises an adaptive controller.

15. A system for driving a drum load according to claim 12, wherein the drum controller is adapted to switch between an open loop and a closed loop control mode, and the drive parameter estimator determines suitable drive conditions for the load in the open loop mode.

16. A system for driving a drum load according to claim 12, wherein the drum controller is adapted to switch between an open loop and a closed loop control mode, and the drive parameter estimator determines suitable drive conditions for the load in the closed loop mode.